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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,542	11/05/2003	Colin P. Garner	00-292	8262

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EXAMINER
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LAWRENCE JR, FRANK M

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/701,542

Applicant(s)

GARNER ET AL.

Examiner

Frank M. Lawrence

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-28 and 30-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 and 31-36 is/are allowed.
- 6) ☒ Claim(s) 1 and 3-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 and 3-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendments to claims 1 and 20 recite subject matter that was not described in the specification as filed and render the arrangements of claims 3, 4, 21 and 22 also not described. Particularly, the original specification does not describe an embodiment where the first electrode for producing an atmospheric glow discharge is located near to but spaced apart “downstream from a downstream end of the filter,” or where the counter electrode is located downstream from the first electrode or adjacent to and in electrical contact with the downstream end of the filter when the first electrode is located near to but spaced apart downstream from a downstream end of the filter. This rejection may be overcome by deleting the phrase “or downstream from a downstream end of the filter” from claims 1 and 20. Claims 5-19 and 23-25 are rejected for depending from a rejected parent claim.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 5-7, 9, 14, 15, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by the Japanese reference (JP 06-146852).

5. JP '852 teaches a system for removing particulates from a gas stream, comprising providing a ceramic filter (6) that includes tubular cells defined by porous ceramic walls, providing a mesh or several point-type first electrodes (8,26) located near the upstream end of the filter, providing a plurality of point-type counter electrodes (9) at a second end of the filter downstream from the first electrodes, and providing an AC voltage from a source to the electrodes to produce a discharge to regenerate the filter, wherein the voltage is provided at a frequency of 5 kHz or more and an output of 3 kV or more (see figures, abstract, machine translation paragraphs 9-18).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 11-13 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '852.

8. JP '852 discloses all of the limitations of the claims except that the AC voltage frequency range is about 20-25 kHz and the output voltage is about 5-25 kV. Absent a proper showing of criticality or unexpected results, it is submitted that one skilled in the art would take the

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disclosed ranges in JP '852 and use routine optimization to arrive at parameters that achieve the best regeneration performance.

9. Claims 27, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 94/07008 in view of Woodhouse (4,954,263).

10. WO '008 teaches a system for removing particulates from a gas stream, comprising providing a ceramic filter (20) that includes tubular cells defined by porous ceramic walls, providing several point or plate shaped first electrodes (2,3,4) disposed at a first end and side of the filter, providing a plurality of point or plate shaped counter electrodes (5,6) at a second end and side of the filter, providing an AC voltage from a source to the electrodes to produce an arc discharge to regenerate the filter, and providing a capacitor (8-11) between the voltage source and electrodes for regulating current, wherein the voltage is provided at a frequency of 5-20,000 Hz and an output of 2-25 kV (see abstract, figures, p. 14, lines 12-27, p. 16, line 24 to pl. 17, line 9).

11. WO '008 discloses all of the limitations of the claim except that the stabilizing means is a resistor. Woodhouse '263 discloses a fluid treatment system having electrodes that are connected by a wire that includes a resistor (17) (col. 2, lines 26-65). It would have been obvious to one having ordinary skill in the art at the time of the invention to use a resistor in the system of WO '008 in order to provide a means that can control and stabilize the current flow in the circuit.

***Terminal Disclaimer***

12. The terminal disclaimer filed on September 19, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US

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Patent No. 6,660,068 has been reviewed and is accepted. The terminal disclaimer has been recorded.

***Allowable Subject Matter***

13. Claims 26 and 31-36 are allowed.

14. The following is an examiner's statement of reasons for allowance: Reasons for allowance of claims 31-36 are given in the previous office action. With respect to claim 26, the prior art of record fails to disclose the apparatus as recited wherein one of the electrode arrangement and the at least one counter electrode comprises a surface electrode in the form of a layer of conducting material bonded to or deposited on an end surface of the filter.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

15. Applicant's arguments filed September 19, 2005 have been fully considered but they are not persuasive. The examiner agrees with applicants' arguments related to the Beines and Henkel references with respect to claims 1, 20 and 26 because they fail to disclose at least one first electrode for producing an atmospheric glow discharge located near to but spaced apart upstream from an upstream end of the filter or downstream from a downstream end of the filter, or wherein one of the electrode arrangement and the at least one counter electrode comprises a

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surface electrode in the form of a layer of conducting material bonded to or deposited on an end surface of the filter.

16. In response to applicant's argument that Woodhouse is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Woodhouse patent is directed to a system using a resistor for the purpose of controlling and regulating AC current flow in an electrode circuit.

17. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the teaching in Woodhouse that the resistor is used for regulating AC current flow in an electrode circuit would be used by one having ordinary skill in the art to provide a desired current flow in the system of WO '008.

18. The Japanese reference JP '852 is newly cited to address the new claim limitations.

***Conclusion***

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank M. Lawrence  
Primary Examiner  
Art Unit 1724

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*Frank Lawrence*

12-12-05